

ACTION SHEET 41

between

The Japan Nuclear Cycle Development Institute (JNC)

And

The United States Department of Energy (DOE)

For

Joint Study on the Conceptual Design for the RETF Safeguards System (Phase-2)

1. Introduction

Under Article II (Area of Cooperation) of the Agreement between JNC and DOE for Cooperation in Research and Development Concerning Nuclear Material Control and Accounting Measures for Safeguards and Nonproliferation (herein called the "Agreement"), dated September 15, 1993, DOE and JNC undertake to carry out a cooperative effort on the Joint Study of the Conceptual Design for the Recycle Equipment Test Facility (RETF) Safeguards System. This Action Sheet continues the conceptual design studies initiated in Action Sheet 28. This Action Sheet will take into consideration certain aspects of the IAEA Strengthened Safeguards System for a strengthened and cost-effective safeguards systems to include the design of remote monitoring capabilities.

2. Scope of Work

This Action Sheet (AS) provides for a cooperative effort on the joint study of the conceptual design for the RETF safeguards system which will include on-site sensor and video analyses, data reduction methods and on-site data processing, data transfers, and authentication methods for an automated sampling system.

The work performed under this AS shall be performed Sandia National Laboratories (SNL), and JNC in accordance with the terms and conditions of the Agreement.

3. Program Management

SNL is responsible for studying the on-site sensor and video analyses, data reduction methods and on-site data processing, data transfers, and authentication methods for an automated sampling system. It is expected that remote access to this unattended monitoring system is a desired capability of the safeguards design. JNC is responsible for providing design information, information on plant operation, and other information required for completion of the joint studies. The work to be done is identified in Appendix I and is limited to techniques for safeguards applications. Appendix II identifies key personnel working on this project.

DOE and SNL shall work directly with JNC in planning tasks and resolving programmatic and technical questions. SNL shall start by developing and circulating a detailed work plan with projected milestones for each task and update the work plan with JNC concurrence as work progresses.

SNL shall prepare informal reports on the task and circulate them to JNC, DOE, and to other pertinent organizations as requested by JNC.

SNL and JNC shall prepare and present written and oral reports at meetings of the Permanent Coordinating Group.

4. Fiscal Management

JNC shall make a cash contribution with the sum of \$100,000 in United States dollars to conduct the activities related to the completion of studies into safeguards techniques at the RETF as defined in Appendix I of this Action Sheet in the following manner:

A contribution of \$100,000 in United States dollars shall be due and payable upon receipt of an invoice to be issued by SNL upon or shortly after the date of signature of the Action Sheet.

All contributions by JNC shall be due and payable within thirty days of receipt by JNC of an invoice from DOE, subject to availability of appropriated funds to JNC.

DOE shall be responsible for the budget planning and financial management and shall make best efforts to complete the JNC-funded activities in the Appendix I satisfactorily and within the cash contribution by JNC. DOE costs are determined in accordance with DOE's policy for costing work it performs for others as set forth in 10 CFR Part 1009. The total cost to JNC for DOE's performance of work under this Action Sheet shall not, without JNC's prior consent, exceed the contributions set forth above.

DOE shall not begin or carry out work prior to entry into force of the Agreement and Action Sheet and receipt of the required payment in advance. Work shall not be continued after funds from JNC have been depleted.

Throughout the duration of work under this Action Sheet, JNC shall provide sufficient funds in advance to reimburse DOE for causing SNL to perform the work described in this Action Sheet, and DOE shall have no obligation to perform in the absence of adequate advance funds. Payment in advance from JNC shall be sufficient to cover the expected obligation and cash requirements of the work until a subsequent request for payment in advance can be made, collected, and recorded. In this regard, sufficient advance funds shall be provided to maintain, at a minimum, a continuous 90-days advance of funds for expected DOE fund requirements during the life of this Action Sheet. Advances shall be sufficient to cover expected termination costs that DOE would incur on behalf of JNC.

5. Duration and Termination

This Action Sheet shall enter into force upon the later date of signature and shall continue in force for an 18 month period or until mutually agreed by the parties that all activities under this Action Sheet are completed.

For the Japan Nuclear Cycle Development
Institute

Signature: Masayuki Wanaga

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Name: Masayuki Wanaga

Title: Director, International Cooperation
and Nuclear Material Control Division

Date: 3/18/1999

For the United States Department of
Energy

Signature: Kenneth E. Sanders for

Printed

Name: Kenneth E. Sanders

Title: Director International
Safeguards Division

Date: 3-24-99

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APPENDIX I

Joint Study on the Conceptual Design for the RETF Safeguards System (Phase-2)

1. Study Outline

In developing the conceptual design for the RETF safeguards system, the study will consider the verification points and methods, on-site sensor and video analyses, data reduction methods and on-site data processing, data transfers, authentication methods for an automated sampling system and data transmission of operator measurement systems for the process monitoring. All study areas will consider international safeguards requirements, plant operation requirements, and the process and plant design.

SNL will perform studies of the on-site sensor and video analyses, data reduction methods and on-site data processing, data transfers, and authentication methods for an automated sampling system.

2. Sites

This work will be conducted at:

Sandia National Laboratories
Albuquerque, New Mexico, USA

Japan Nuclear Cycle Development Institute
Tokai Works
Tokai-mura, Japan

3. Programmatic Responsibilities

- A. SNL will be responsible for providing best efforts within the funding and schedule for the conceptual design. Any tests or technical assistance shall be provided on a non-interference basis with existing and SNL programs.
- B. JNC will be responsible for providing information on RETF plant design and operation.
- C. SNL and JNC will jointly participate in technical meetings and report preparation.

As more detailed program plans are developed, specific responsibilities will be better defined and delineated.

4. Schedule*

ID	Taskname	CY-1999				CY-2000			
		First Quarter	Second Quarter	Third Quarter	Fourth Quarter	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
	Remote Monitoring	█	█	█	█	█	█	█	█
1	On-site sensor and video analysis	█	█	█	█	█	█	█	█
2	Data reduction methods and on-site data processing	█	█	█	█	█	█	█	█
3	Data transfer	█	█	█	█	█	█	█	█
	Authentication	█	█	█	█	█	█	█	█
1	Measures for an automated sampling system	█	█	█	█	█	█	█	█

* The schedule will be followed on a best-effort basis commencing on receipt of funding and availability of parts

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APPENDIX II

Key Personnel

Joint Study on the Conceptual Design for the RETF Safeguards System (~~Phase-21~~)

Power Reactor and Nuclear Fuel Development Corporation

JNC Headquarters

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Safeguards Co-ordination and Management
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Tokai Works

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Institute
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Takeshi Kuwamura, General Manager
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Department of Energy

1. DOE Headquarters

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John Capps
International Safeguards Division
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2. DOE-Albuquerque Operations Office

James R. Anderson, Director
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3. Sandia National Laboratories

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